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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,232	02/22/2000	Toshikazu Ohshima	2355.11108	2200

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 06/04/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,232

Applicant(s)

OHSHIMA ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32,33,36,38,39,41 and 43-52 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 32,33,36,38,39,41 and 43-52 is/are rejected.

- 7) ☒ Claim(s) 34 and 35 is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 38 recites the limitation "the predetermined portion" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2674

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 32, 33, 36, 39, 41 and 43-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maguire, Jr. (US Patent No. 6,411,266) in view of Zimmerman et al (US Patent No. 4,988,981) and Doi (US Patent No. 6,278,418)

As to claims 32, 33, 44, Maguire discloses a mixed reality presentation method of displaying to a player a mix reality space to obtained by mixing real space and virtual space, comprising the steps of: detecting a location of the player (30, 34, 38, 42); detecting a location of a controller operated by the player (for example, one of more viewer body part monitor 46 provide a body part signal to a line to the computer, and such may be a glove or similar devices, see col. 5, lines 26-33); inputting an image of the real space (e.g. camera 10 providing the real space image to the computer); generating a first image of the virtual space corresponding to the detected location of the player of the player by using model information of the player (50, Fig. 2); generating an image of the mixed reality space by mixing the first image of the virtual space with the image of the real space (16, Fig. 1); and displaying the image of the mixed reality space to the player (28, Fig. 1). It is noted that Maguire does not specifically generating a pointer display corresponding to the location of the controller as a second image of the virtual space and the pointer display is made up of not less than n parallel lines each of which passé through vertices of a regular n-sided polygon. Zimmerman is cited to teach to generate a virtual controller (such as a virtual hand or a virtual cursor) based on the position of the controller worn by the user. Furthermore, Doi is cited to teach that it is well known in the art to have different shapes of pointers (or virtual controller). For example, as shown in Fig. 8 of Doi, the virtual

Art Unit: 2674

image of controller such as weapon w1 and a ray gun w2 (e.g. n-sided polygon) are interactive with a computer-generated virtual image (e.g. dinosaur C). It would have been obvious to one of ordinary skill in the art to have modified Maguire with features of generating virtual controllers as taught by Zimmerman and Doi, so that the user can interactive display image combined with virtual space and a real space.

As to claim 36, Doi discloses a third image of the virtual space (w1, Fig. 8) and mixing the third image with the image of the real space (e.g. hand) so that the third image covers the control and a predetermined portion of the player in the image of the real space.

As to claim 39, Doi discloses the n lines comprise the pointer (w1, Fig. 8) starting substantially a distal end portion of the third image (w1) of the virtual space.

As to claim 41, it would have been obvious to have an image representing scale marks in the position display so that the viewer can control the zooming of the image.

As to claim 43, Zimmerman discloses that the computer program controls the pointer.

As to claims 45, 51 and 52, Maguire discloses a mixed reality presentation method comprising: an input step of inputting a sensed image sensed by a camera (10) of a first player (12); a first detection step of detecting first location information representing locations of plural portions of the first player (30, 34, 38, 42); a virtual image generating step of generating a virtual image (16); and a mixed reality image generating step of generating a mixed reality image to be presented to the first player and representing the mixed reality space, by mixing the virtual image with the sensed image (16). It is noted that Maguire does not specifically disclose a second player in the real space. Doi is cited to teach a display system by mixing real space object and a virtual space object similar to Maguire. Doi further discloses two players in a real space. It

Art Unit: 2674

would have been obvious to one of ordinary skill in the art to have included two players such as taught by Doi in Maguire's system so that two players can interact with each other.

As to claim 46, Maguire discloses the plural portions including the head of the player on which a display device is worn through which the first player experience the mixed reality (Fig. 1).

As to claim 47, Zimmerman discloses the pointer as a command information.

As to claim 48, it would have been obvious to generate a virtual player using simple shapes.

As to claim 49, Maguire discloses a visual axis detection step (42).

As to claim 50, Maguire discloses location information further represents posture of the plural portions of the player (46).

Allowable Subject Matter

6. Claims 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 32, 33, 36, 38, 39, 41 and 43-52 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2674

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Application/Control Number: 09/510,232

Page 7

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw

June 2, 2003


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674